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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/612,909

07/07/2003

Franz Szenger

01003

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7590

06/25/2004

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EXAMINER

REIS, TRAVIS M

ART UNIT

PAPER NUMBER

2859

DATE MAILED: 06/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/612,909	Applicant(s) SZENGER ET AL.	
	Examiner Travis M Reis	Art Unit 2859	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Objections

1. Claims 1 & 5 are objected to because of the following informalities:

Claim 1 recites the limitation "the deflection" in line 4. There is insufficient antecedent basis for this limitation in the claim.

Claim 5 recites the limitation "said flag" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

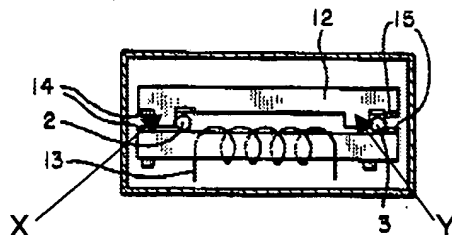
2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-3 & 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Feichtinger (U.S. Patent 4253240).

Feichtinger discloses a probe head for a coordinate measuring apparatus, the probe head comprising a yielding part (2) (Figure 1), measuring systems (col. 2 lines 29-31) for measuring the deflection of said yielding part in respective directions; an electromagnet damping device (12) for damping said yielding part in a pregiven direction via clamping means; said damping device including at least one electromagnetic friction brake (13) with a first and second flag (X, Y see below)



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of generating friction force which can be electrically charged (Figure 2).

4. Claims 1, 8-10, 13, & 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Ruck et al. (U.S. Patent 5623766).

Ruck discloses a probe head for a coordinate measuring apparatus, the probe head comprising a yielding part (3, 9, 10) (Figure 1), measuring systems (21, 22, 23) (col. 3 lines 58-60) for measuring the deflection of said yielding part in respective directions; an electromagnet damping device (29) for damping said yielding part in a pregiven direction; said damping device including at least one electromagnetic friction brake (15,16,17)(col. 4 lines 42-46) of generating friction clamping force, to counter a rebound of the probe head (col. 5 lines 26-29) & clamping said yielding part in a pregiven desired position causing said measuring force generator to generate pulse-like measurement forces (col. 6 lines 22-40), said brake being electrically charged (Figure 4); further comprising an electronic controller (40) for electrically adjusting said friction force of said friction brake in proportion to the time-dependent derivative of the measured deflection in a particular direction (col. 4 lines 48-56) (Figure 5).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

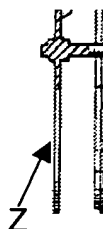
(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scarrott et al. (U.S. Patent 3044593) in view of Ruck et al.

Scarrott et al. discloses a probe head for a coordinate measuring apparatus, the probe head comprising a yielding part (12) (Figure 1); an electromagnet damping device (21) for

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damping said yielding part in a pregiven direction; said damping device including at least one electromagnetic friction brake (16,17, 18) including a first reinforced (11) and second reinforced flag (Z, see below) (col. 1 line 58),



generating friction force which can be electrically charged (Figure 2) said flags having a side facing away from said electromagnet; and said clamping means comprises a plate (22) on said side of said flag in spaced relationship thereto and thicker than said flag; a holder (28); and said plate is resiliently mounted on said holder so as to permit a displacement relative thereto when said plate is drawn by said electromagnet to clamp said flag therebetween (Figure 4).

Scarrott et al. does not disclose measuring systems.

Ruck et al. discloses a probe head for coordinate measuring apparatus with damping and clamping features, and further includes measuring systems (21, 22, 23) for continuously detecting the deflections of the guided parts of the probe head (Figure 1) (cols. 3-4 lines 66-67 to 1-5). Therefore, it would have been obvious to one with ordinary skill in the art at the time of the invention was made to add the measuring systems disclosed by Ruck et al. to the damping device in order to continuously detect the deflections of the yielding part.

7. Claims 2, 11 & 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ruck et al. in view of Scarrott et al.

Ruck et al. discloses all of the instant claimed invention as stated above in the rejection of claims 1, 8-10, 13, & 14, but do not disclose a flag; a spring suspended plate in spaced relationship with said flag; said electronic controller including means for clamping said

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friction brake by first applying a voltage so that said spring suspended plate is pulled toward said electromagnet and then dropping said voltage to below said threshold voltage.

Scarrott et al. discloses a frictional coupling device with a flag (11) in a spaced relationship with a spring (29) suspended plate (22); wherein an electromagnet (17) applies "light engagement" force, said light engagement force defined as not substantially more to maintain said surfaces in contact with said flag (col. 1 lines 38-57), in order that wear is automatically taken up (col. 3 lines 61-62). Therefore, it would have been obvious to one with ordinary skill in the art at the time of the invention was made to replace the damping means disclosed by Ruck et al. with the frictional coupling device disclosed by Scarrott et al. in order to reduce wear on the system.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Nishimura discloses a micro-geometry measuring device (U.S. Patent 6314800). Schneider et al. discloses a chucking device for interchangeable holding of probe pins in a coordinate-measuring instrument (U.S. Patent 4637119). Down discloses a magnetic brake device (U.S. Patent 1790202). Tritle discloses a spring applied electromagnetic brake operator (U.S. Patent 2558594). Spencer discloses adjustable time delay electromagnetic clutch (U.S. Patent 3704770). Torii et al. discloses an industrial robot brake apparatus (U.S. Patent 4827782). Nemoto et al. discloses an electro-magnetic device (U.S. Patent 5739610). Anastas et al. discloses a system and method for providing passive haptic feedback (U.S. Patent App. Pub. 2004/0040800). Johansson et al. discloses an electromagnetic brake assembly and power supply (U.S. Patent App. Pub. 2004/0074715). Onuki et al. discloses a brake system for linear actuator (U.S. Patent App. Pub. 2004/0099492). Klode discloses an electrically controlled rotary holding device (U.S. Patent 6527091).

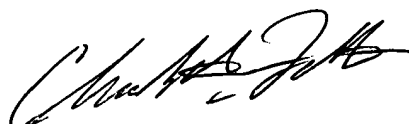
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9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Travis M Reis whose telephone number is (571) 272-2249.

The examiner can normally be reached on 8--5 M--F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego Gutierrez can be reached on (571) 272-2245. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306 for all communications.

Travis M Reis
Examiner
Art Unit 2859



Diego Gutierrez
Supervisory Patent Examiner
Technology Center 2800

tmr
June 16, 2004

CHRISTOPHER W. FULTON
PRIMARY EXAMINER